

City of  
*Leander*



## **Item 8 – Staff Report**

March 2, 2023

Dan Grimsbo, PE – Executive Director of Infrastructure  
Gina Ellison, PE – Public Works Director



# **Brushy Creek Regional Utility Authority**

## **Underwater Pipeline Repair**

*BCRUA Board Meeting  
February 22, 2023*

# Raw Water Line History

- **November 2011- Substantial completion achieved**
  - Engineer: Jacobs Engineering Group, Inc.
  - Contractor: W.L. Hailey & Company, Inc.
- **December 2020 - Pipeline failure**
  - Repaired by Excel Construction and Chapman Marine
  - Completed full pipeline survey
  - Pipe investigation completed by WJE
  - Initiated routine dive inspections of the pipeline
- **March 2022 - Design of replacement pipeline started**

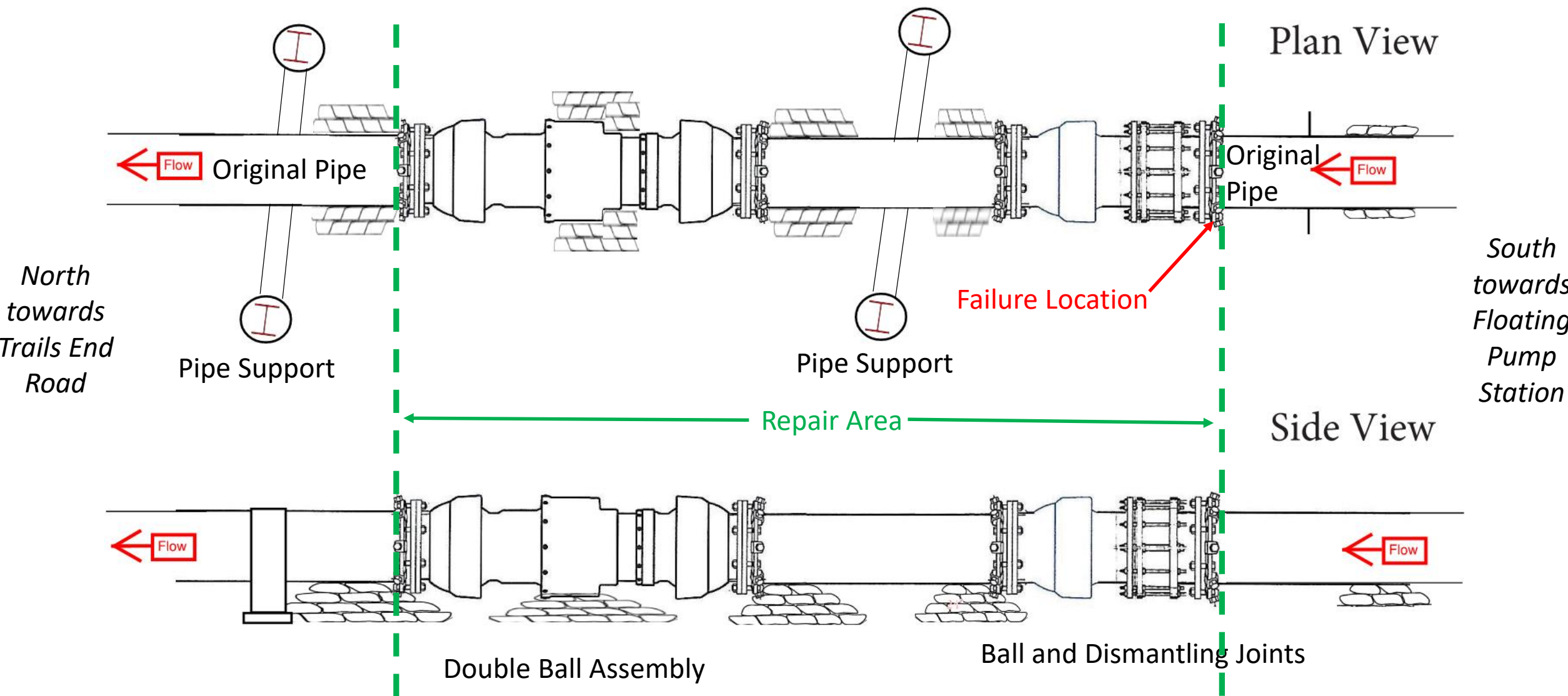


# Raw Water Line History

- August 2022 - Significant leak detected
  - Controlled shutdown and line repair completed September 2022
  - Repaired by Thalle and subcontractor Global Diving
- February 14, 2023 - Pipeline failure



# What Happened?



# Why did the Line Fail?

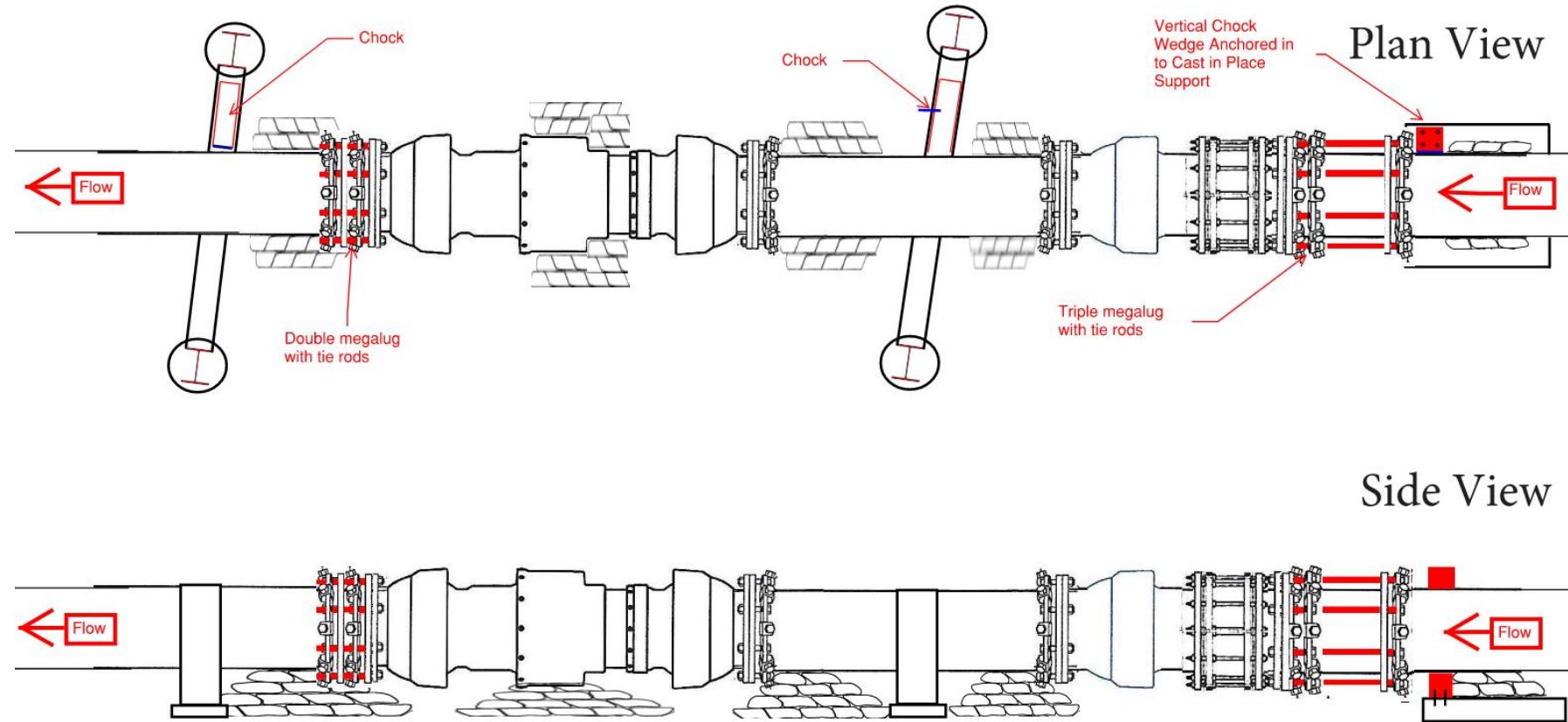
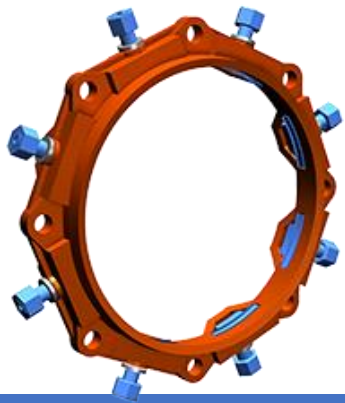
- Investigation is ongoing - no “smoking gun” at this time
- Factors being investigated:
  - Improperly installed mechanical joint
  - Underwater restriction preventing proper movement of fittings
  - Thrust forces due to the repair alignment not being “straight”
  - System operations
- The pipeline is vulnerable at the repair location





# How will the Line be Repaired?

- Straighten alignment to extent possible
- Add thrust restraint at 3 locations
- Add additional restraint and gripping at connections to original pipe











# When will the Repair be Completed?

- Contractor is already mobilized on site due to work on the Phase 2 Project
- Repair parts already available
- Work started this week
- Anticipate repair completed and WTP operations restored in 2-3 weeks
- The repairs have been completed
- Now refilling the 36 inch RWL and starting up WTP





# What Measures can be Taken to Avoid Another Failure?

- Routine inspections of the repair area to be performed by Global
- Install set measurement points and levels on the line to facilitate ongoing inspections
- Coordinate base loading of the WTP to minimize flow variation
- Replace the raw water line (estimated completed Spring 2024)





# Questions?



# Brush Cleanup

## Brush Drop-off Events

- Feb. 11 & 18
- 1,921 vehicles served
- Est. **12,500 cubic yds** collected
- Mulched and hauled to city parks, recycling center
- Est. **\$36,270** total disposal cost

## Brush ROW Cleanup

- Est. 68 tons collected





# Brush Cleanup





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**QUESTIONS?**